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## A Collection of Birds from the Ivory Coast

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ABIDJAN, IVORY COAST

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The avifauna of the Ivory Coast has been little studied, and therefore any opportunity to increase our knowledge is welcome. The collection of 339 birds that is the subject of the present report was made by the junior author in 1964 and 1965 while a student at the Lycée at Bouaké, Ivory Coast. Considering that he was never more appropriately armed than with a pellet gun, to which he was later able to add several mist nets, he made a collection that is surprisingly representative, containing 139 species of which 44 are new records for the country. In the following report, the field notes and general introduction are those of the junior author, and the taxonomic notes are those of the senior author.

The earliest report on birds of the Ivory Coast was that of Bouet and Millet-Horsin (1916-1917) who made two extended visits to the country, in 1906-07 and 1913-14. They evidently traveled widely for they include localities from the coast north to Korhogo. Although apparently they collected some specimens, the great majority of their records are based on sight records. The first proper collection was made in 1922 by Willoughby Lowe for the British Museum. He collected primarily in Béoumi and Bandama, localities not far west of Bouaké. Due to an unfortunate accident to his companion Hardy, Lowe's collecting was curtailed, but he managed to bring back some 345 specimens, representing 155 species. These were reported on by Bannerman (1923).

Between 1923 and 1960 there were only a few short papers on Ivory Coast birds. Dekeyser (1947a) recorded two species taken at Mt. Tonkoui in the mountainous west. M. Jean Brunel, an ardent amateur ornithologist, made a small collection around Abidjan which

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he sent to the Paris Museum where it was studied by Berlioz (1954). The following year, Brunel (1955) reported many of his own observations in the *Oiseau*. The only other major collection was made by Pfeffer and Chauvancy who in 1959-1960 spent three months collecting in the forest zone at Kpapekou and Mama. Their collection numbered 460 specimens of 120 species and was reported on by Pfeffer (1961).

Altogether, only 266 species are known from the Ivory Coast from actual specimens. To these may be added some 90 presumably valid sight records, but even 350 species is not much over half the total to be expected of a West African country with extensive forests and savanna. There is still a fertile field for ornithological exploration here.

#### GENERAL

The Republic of Ivory Coast, on the coast of the Gulf of Guinea, is a small, almost square-shaped country measuring about 300-400 miles on a side. It is bordered by (clockwise from the ocean) Liberia, Guinea, Mali, Upper Volta and Ghana. Ghana is the best studied of these, and the avifauna of the Ivory Coast does not differ strikingly from it. Comparing these two in size, we find that the Ivory Coast is wider, but does not reach quite so far to the north. The vegetational zones also follow much the same pattern as in Ghana; a little mangrove on the coast, a broad belt of rain forest extending inland for 100 to 200 miles, a horizontal strip of intergrading savanna and forest, and the true savanna farther to the north. Important differences are the mountainous forest in the west of the Ivory Coast, in the area of the Mt. Nimba range, and the existence in the north-eastern corner of Ghana of a stretch of dryer savanna than is found in the Ivory Coast.

Climate follows the same pattern also as Ghana, with alternating rainy and dry seasons. In the extreme south there are two of each, the long rainy season occurring in late summer and autumn, the short one in late spring, and the long dry season occurring during the winter months, the short one between the two rainy seasons, about July and August. As one progresses toward the north these four seasons gradually merge into two, a rainy season in summer, and a dry season from about the end of November to April.

#### ASPECTS OF THE AVIFAUNA

To date there are 266 species recorded from the Ivory Coast. According to the ranges given by Bannerman (1953), between 600

and 700 species will probably be found. Due to the several ecological, regions a number of species may be found to have two representative subspecies in the Ivory Coast.

In the following instances, the subspecies found in Ghana is different from that found in Liberia or Sierra Leone.

SPECIES	SUBSPECIES	
	Ghana	Sierra Leone/Liberia
<i>Francolinus bicalcaratus</i>	<i>bicalcaratus</i>	<i>thornei</i>
<i>Psittacus erithacus</i>	<i>erithacus</i>	<i>timneh</i>
<i>Tauraco persa</i>	<i>persa</i>	<i>buffoni</i>
<i>Tropicranus albocristatus</i>	<i>macrourus</i>	<i>albocristatus</i>
<i>Heliocorys modesta</i>	<i>modesta</i>	<i>nigrita</i>
<i>Phyllanthus atripennis</i>	<i>haynesi</i>	<i>atripennis</i>
<i>Trichastoma cleaveri</i>	<i>cleaveri</i>	<i>johnsoni</i>
<i>Baeopogon indicator</i>	<i>togoensis</i>	<i>leucurus</i>
<i>Diaphorophyia concreta</i>	<i>concreta</i>	<i>lomaensis</i>
<i>Turdus olivaceus</i>	<i>saturatus</i>	<i>chiguancoides</i>
<i>Cossypha albicapilla</i>	<i>giffardi</i>	<i>albicapilla</i>
<i>Hirundo senegalensis</i>	<i>saturator</i>	<i>senegalensis</i>
<i>Nectarinia chloropygia</i>	<i>chloropygia</i>	<i>kempi</i>
<i>Cyanomitra cyanolaema</i>	<i>octaviae</i>	<i>magnirostrata</i>
<i>Estrilda astrild</i>	<i>occidentalis</i>	<i>kempi</i>

Of these fifteen species, five have been found in the Ivory Coast. *Francolinus b. thornei* at Béoumi and Bouaké and *Turdus o. chiguancoides* at Bouaké prove to be the race of Liberia, but *Tauraco p. persa* at Béoumi and Kpapékou is the race of Ghana. The race of *Diaphorophyia concreta* at Mt. Tonkoui is still indeterminate. Dekeyser (1947a, p. 54) called it *harterti*, the race of Cameroon, but he had no material of any of the West African races and had to depend on written descriptions. There may actually be no difference between *concreta* and *lomaensis*, for the former is still known only from the faded type; White (1963, p. 32) unites them. Specimens of *Nectarinia chloropygia* from Bouaké and Abidjan are like those of Liberia and must be called *kempi*, but the extent to which they differ from Ghana birds is still not clear (see p. 110). The Ivory Coast, therefore, does seem to be a meeting ground for a few species with different races in Ghana and Liberia or Sierra Leone, but the total number of these species is small and they seem to have little zoogeographic significance.

## COLLECTING LOCALITIES

*Bouaké*

Bouaké is a town of some 50,000 inhabitants in the center of the Ivory Coast. Vegetation is mostly savanna type; the land is composed of low, rolling hills, with a few scattered granite outcrops. There are no large rivers, and consequently few marshes of any size, but small streams are to be found almost in every valley; some dry up completely in the dry season (from November to March). Along these streams grows a surprising amount of gallery and fringing forest. A few large stands of primary forest occur, along with a great deal of secondary growth.

*Abidjan*

Abidjan is the capital and has a population of over 250,000. It is situated on the seacoast. All collecting was done in second growth near cultivated land. The humidity is always high. Rainy season is from April to June and August to October.

*Korhogo*

A large town in the north, Korhogo is in typical savanna country. It is interesting to note that nearly every village has a stand of primary growth nearby, which has been kept so for generations, and is used for "sacred forest" purposes, a mysterious part of tribal rites. This accounts for some of the birds of more sylvan habitat being found in the middle of the savanna. There are also a few gallery forests.

*Doropo*

A small village only nine kilometers from the Upper Volta border, Doropo is in a dry region in the Sudanese savanna. There are more scattered dwarf trees and acacia than at Korhogo.

## GAZETTEER

The various localities mentioned in the text are listed below. All are less than 2,000 ft. above sea level, and altitude plays no part in the distribution of birds in the Ivory Coast. Only in the region of Mt. Tonkoui in the west can montane birds be expected.

Abidjan.....	5° 21' N; 4° 02' W
Bavé.....	9° 34' N; 4° 09' W
Bondoukou.....	8° 03' N; 2° 48' W
Bongouanou.....	6° 39' N; 4° 12' W
Bouaké.....	7° 42' N; 5° 02' W
Bouna.....	9° 17' N; 3° 00' W

Boundiali.....	9° 32' N; 6° 28' W
Dabakala.....	8° 22' N; 4° 20' W
Doropo.....	9° 47' N; 3° 20' W
Ferkéssédougou.....	9° 36' N; 5° 12' W
Fétékro.....	7° 49' N; 4° 42' W
Foro-Foro.....	7° 59' N; 5° 03' W
Gouméré.....	7° 54' N; 2° 59' W
Groumania.....	7° 54' N; 4° 00' W
Katiola.....	8° 09' N; 5° 06' W
Kong.....	9° 09' N; 4° 37' W
Korhogo.....	9° 27' N; 5° 39' W
Laoudi-Ba.....	8° 18' N; 2° 57' W
Satama Sokoura.....	7° 54' N; 4° 22' W
Sinématiali.....	9° 35' N; 5° 23' W
Toumodi.....	6° 33' N; 5° 01' W
Varalé.....	9° 39' N; 3° 17' W
Wango-fitini.....	9° 24' N; 4° 02' W
Yaossédougou.....	8° 14' N; 4° 14' W

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Also, to the senior author of this paper, without whose interest, encouragement and monthly communications over a period of more than two years I should not be writing this, I am more deeply indebted than I can say.

Finally, my thanks and appreciation go to my father, who was unflinchingly encouraging and unselfishly devoted much of his free time to planning field trips and helping to carry out my projects, and my mother, who suffered me to keep live hawks and vipers in my bedroom, and unprepared specimens in her refrigerator!

The senior author would particularly like to express his appreciation to Mr. and Mrs. Rolf Parelius for the encouragement they gave their son in his natural history pursuits. This involved a consider-

able sacrifice of the peace and quiet of their home, which they cheerfully made.

### SYSTEMATIC LIST

The order of families within the present list is that of Wetmore, while within the families the order of the species is that of Peters' Check-list for those families that have been covered, and of White's Revised Check-list for the others. Those species marked with an asterisk are here recorded for the first time from the Ivory Coast. Common and widespread species for which no new information is available are omitted from this list.

#### **Butorides striatus atricapillus** (Afzelius)

1 juv. ♂, 1 ♀, Korhogo, 8 June 1964.

A rather uncommon heron. Two nests in June were placed in fringing forest, in *Kassia* trees, about 20 ft. up and were made of twigs. One contained two eggs, and the other had three chicks.

The juvenal male has just begun post-juvenal molt, and the adult female is in complete post-nuptial molt.

#### **Ardeola ibis ibis** (Linnaeus)

2 ♀, Bouaké, 15 and 25 Nov. 1964.

These arrived in November and stayed during the dry season. They roosted in one large tree, and in the early morning before the cattle began to roam, many hunted insects for themselves.

#### **\*Scopus umbretta umbretta** Gmelin

1 unsexed, east of Bouaké, 17 Aug. 1964.

This specimen was a gift of Rev. L. Palmer.

This specimen with wing 320 mm. belongs to the larger nominate race, wing length (sexes combined) 280-333. The small race *minor*, wing 250-266, appears confined to the coastal mangroves from Sierra Leone to Nigeria; elsewhere in West Africa, inland from the coast, its place is taken by *umbretta* (cf. Dekeyser, 1947b, p. 372).

#### **Accipiter tachiro macroscelides** (Hartlaub)

1 ♂, Bouaké, 17 April 1965.

Specimen taken in a mist net in the undergrowth of primary forest near a marshy stream.

Although in adult plumage and already beginning molt into a second adult plumage, this bird still retains two worn juvenal secondaries. These must be 15-18 months old.

**Butastur rufipennis** (Sundevall)

1 ♀, Bavé, 1 Jan. 1965; 1 ♀, Dabakala, 25 Dec. 1964.

A common hawk in the northern regions; it only appeared at Bouaké at grass fires. Two captives were kept from January to June of 1965. Although Bannerman considers the species "absolutely mute" (1953, p. 282), and Chapin says also that it is "perfectly mute" (1932, p. 604), I recorded a loud cry of annoyance from the older of the two. Both captives were voluble when excessively handled, as might be expected. Within the confines of my room, I noticed a marked tendency on the part of the grasshopper buzzards and a black kite, *Milvus migrans*, to perch on the highest possible site. For both of the buzzards I had at first to cut raw meat into small chunks for them to eat. Whereas the older eventually took to tearing meat held beneath its feet, the younger did not; when I gave it a piece that was too large to swallow, it would take the piece out of its mouth with one foot, then seem at a loss as to what it should do. At first it would move sideways on the perch, looking very much confused, but soon learned to hold the foot up and peck the meat from between its toes.

**Francolinus bicalcaratus thornei** O.-Grant

1 ♀, Bouaké, 16 March 1964; 1 ♂, Bouaké, 1 May 1964.

This was by far the most common of the francolins in our area. It seemed to be just as common at Bouaké as farther north. It is a well-known game bird. Its harsh call is heard often in the early morning, though not so early as the Ahanta Francolin. Flocks of two to a dozen birds are commonly seen in the maize and igname fields. Although essentially a ground bird, it does not hesitate to perch on low branches, and I once saw one perched about 60 or 70 ft. up on a dead trunk of a tree. On another occasion one landed near me while I was standing in an igname field and moved about only a few feet away quite freely.

Although paler than typical *thornei* of Liberia, these specimens are nearer to that form than to the pale *bicalcaratus* of Ghana.

**\*Limnocorax flavirostris** (Swainson)

1 juv. ♂, Bouaké, 5 Feb. 1965.

The black crane was quite common in a stretch of marsh and cultivated land, and toward evening its queer gurglings and wheezes could be heard. The birds themselves were very shy and came out in the open only when assured that nothing was stirring. It was also to be found along the shady backwaters where vegetation enabled it

to hop from place to place. Once I saw several in open, marshy land that had just been turned over for planting. The birds were presumably getting earthworms and grubs from the soil. It usually flew only when surprised away from cover, at which time it flew heavily, with legs dangling, back to the reeds.

**\*Neotis cafra denhami** (Children)

1 ♀, Bondoukou, 19 Feb. 1965.

Gift of Rev. L. Palmer.

**\*Actophilornis africana** (Gmelin)

1 ♂, Foro-foro, 8 May 1965.

**Treron calva sharpei** (Reichenow)

1 ♀, Dabakala, 27 Dec. 1964.

Taken in wooded savanna.

The call of this pigeon begins with a clock-like "tock-tock tock tock tock," increasing in speed until a sudden switch is made to a whistled "whooooo-eee-ooo-eee-ooo," followed by a thrice-repeated grating note slightly reminiscent of the Bushfowl. The initial "tocking" is generally too soft to be detected in the field, unless at extremely close quarters. I heard it only because I kept three of these for awhile. These three established a peck order. Very often a "bout" would take place between two of them, the combatants striking at each other alternately, but not actually making contact.

**\*Treron waalia** (Meyer)

1 ♂, Kong, 1 Jan. 1965.

One of a band, taken in wooded savanna.

**Streptopelia vinacea vinacea** (Gmelin)

2 ♂, 1 ♀, 1 unsexed, Bouaké, Doropo, Bouna, 12 Feb. 1964, 18-31 Dec. 1964.

Common in the north, and present at Bouaké during the dry season.

**\*Streptopelia senegalensis senegalensis** (Linnaeus)

1 ♀, Korhogo, 16 June 1964; 1 ♂, Doropo, 31 Dec. 1964.

Common in the north; I never saw this tame dove near Bouaké.

**Turtur afer kilimensis** (Mearns)

2 ♂, 1 ♀, 1 unsexed, Bouaké, 23 May 1964-18 March 1965; 1 im. ♂, Abidjan, 23 June 1965.



Common but shy, and usually solitary.

Rand (1949) has written the most recent review of the West African races of *Turtur afer*. He accepted the pale nominate race from Senegal and Portuguese Guinea and the more richly colored *kilimensis*, extending west to Cameroon. The population of Liberia he separated as *liberiensis*, diagnosing this new race as darker than *afer*, and on the upper parts darker and less ruddy brown than *kilimensis*, it also averaged smaller than the other races, wing of male measuring in *afer*, 113–115 (114.2); in *kilimensis* from Cameroon 109–114 (111.2); and in *liberiensis*, 102–112 (106.2).

Our Ivory Coast specimens cannot be distinguished from recently collected Cameroon or East African specimens of *kilimensis*, and in size they are also comparable to that form, wing of males 111, 111, 114. Re-examination of Rand's Liberian specimens shows that the apparent color characters of *liberiensis* may have been due in part to post-mortem change. At the time of the original description, his Liberian material was very fresh, while the comparative material from Cameroon and East Africa was at least 20 years old. Sixteen years later the less ruddy tone of *liberiensis* is not so marked, particularly when compared to Cameroon material of comparable age. The size difference, of course, is not changed.

The juvenal male from Abidjan is undergoing a complete post-juvenal molt. Body molt is complete except for a few barred feathers on back and underparts, and wing molt has proceeded to the seventh primary, which is growing.

**\**Turtur abyssinica delicatula* (Sharpe)**

1 ♀, Doropo, 29 Dec. 1964.

This specimen was with a male near a puddle where they had been drinking. There was an egg ready for laying in the oviduct.

***Poicephalus senegalus versteri* Finsch**

1 ♂, Korhogo, 8 June 1964.

In flocks of about a dozen at Korhogo in June, and by couples at Doropo in December. I saw it eating the young buds of the *Kassia* tree at Korhogo.

***Clamator levallantii* (Swainson)**

1 ♂, Korhogo, 17 June 1964; 1 ♀, Bouaké, 21 Jan. 1965.

This species is rather rarer and more shy than the common coucal; it was more common at Korhogo than at Bouaké. I found it mostly in second growth.

Both specimens are in full molt, although one was taken in mid-winter and the other in early summer. The Khorhogo male may belong to the southern population which breeds south of the Zambesi from October to March and winters in the equatorial regions.

**Tyto alba affinis** Blyth

2 ♀, 1 unsexed, Bouaké, 12 and 15 May 1964, 9 March 1965.

This was probably the most common owl at Bouaké. In June I saw five or six of them chasing and catching the flying termites that gathered under lights that lit our playing court. Since they are nocturnal, I doubt that they were in the habit of feeding on termites.

Stresemann (in Wolff-Metternich, 1956, p. 286) had a single female barn owl from Fernando Po. He was unable to distinguish it from mainland specimens and suggested that *poensis* Fraser (1843, Proc. Zool. Soc. London for 1842, p. 189) would prove to be an earlier name than *affinis* Blyth, 1862, for the barn owls of the whole of Africa. However, Amadon (1953, p. 418) who had two females from Fernando Po, found them darker below than mainland specimens and thought that *poensis* might be distinct from *affinis*. Rather than upset the well-established name *affinis* prematurely, we prefer to await more adequate series from Fernando Po.

**\*Otus leucotis leucotis** (Temminck)

1 ♂, Bouaké, 11 Feb. 1964; 1 ♀, Satama-Sokoura, 30 Nov. 1964.

The second most common owl. Its call was a rather soft, two-note "*kuh-cooo*."

**\*Bubo africanus cinerascens** Guérin

1 unsexed, Katiola, 1 Jan. 1965.

**Ciccaba woodfordii nuchalis** (Sharpe)

1 unsexed, Bongouanou, 13 Feb. 1965.

Gift of Mr. Le Clerc of the C.A.I.T.A.

**\*Caprimulgus ruficollis ruficollis** Temminck

1 unsexed, Katiola, 1 Jan. 1965.

Killed at night on a dirt road.

This species is evidently a rare but regular winter visitor to west Africa. Malzy (1962, p. 38) lists two recent records from Mali of birds taken in October, and one November record from Senegal. All of these were also nominate *ruficollis*.

**\*Caprimulgus inornatus inornatus** Heuglin

1 ♂, Bouaké, 19 May 1964.

This bird was taken in thick second growth with tangled, thorny vines, in the daytime. After being flushed, it landed and sat lengthwise on a branch.

**\*Apus affinis affinis** (Gray)

2 ♀, Bouaké, 9 Dec. 1964.

There was a small colony of 50-100 near us. Every morning they would fly out together and stay in a group for a few minutes screeching the while, after which they went their ways and hunted singly. The hottest hours they would spend in their nests, or at least in a group clinging to the nests, and come out again in the late afternoon.

**Halcyon senegalensis fuscopilea** Reichenow

1 ♂, 2 ♀, Bouaké, 4 Feb. and 30 May 1964.

By far the most common kingfisher at Bouaké.

The male, taken 4 February, has the crown about as dark as the darkest specimens of *senegalensis*, but the two females, one of them taken with the male, have the typical, sooty brown crown of *fuscopilea*. This mixture of pale and dark crowned birds may be due to southerly movements of the pale crowned birds during the dry season. All three birds are in the middle of wing molt, at approximately the same stage despite the difference in dates.

**Halcyon malimbicus forbesi** Sharpe

1 ♂, 1 ♀, Bouaké, 15 Jan. and 16 April 1965.

Much less common than *H. senegalensis*; never seen away from streams and gallery (or fringing) forest. It occurs in gallery forest as far north as Korhogo, although specimens were not obtained to determine the race.

**Merops albicollis** Vieillot

3 ♂, Bouaké, 29 March 1964, 6 and 29 March 1965.

Commonest and tamest of the bee-eaters at Bouaké, where it occurred during the dry season.

Friedmann (1930, p. 361) states that post-nuptial molt in this species in East Africa is irregular, some birds molting on their breeding grounds, July to September, and others on their wintering grounds, from October to March. In West Africa molt is definitely regular. Of some 40 birds taken from Sierra Leone to Cameroon during the

winter months, all show evidence of winter molt. Early October arrivals are in worn plumage, and the first primaries are replaced probably in November. Molt is prolonged, and a few birds taken in early May are still in full molt replacing outer primaries. The young birds also undergo a complete molt at the same time as the adults, but usually starting somewhat later, and it may be that those birds still in molt in May are in their first year.

As Friedmann noted, the situation in East Africa is not clear. However, on the basis of our material from Uganda and Kenya, it appears that those populations that breed locally and do not undergo a prolonged migration molt during the summer, July to September, while those that breed in the semi-arid zone further north, and migrate to East Africa for the winter, molt on their wintering grounds. We have both adults and juvenals in full molt taken in July and early August at Bugoma Forest, Uganda, and Elgeyu and Kendu Bay, Kenya, that must be locally breeding birds. On the other hand, from these and many other localities in East Africa we have numerous adults and young in full molt from October to March, and these are presumably wintering birds from farther north.

**\*Coracias abyssinica** Hermann

1 ♂, Gouméré, 27 Dec. 1964; 1 ♂, Bondoukou, 27 Dec. 1964; 1 ♀, Doropo, 30 Dec. 1964; 1 ♀, Bouaké, Feb. 1965.

Common in the north, but few wandered as far south as Bouaké. While riding from Bouaké to Dabakala late in December 1963, I was surprised to find one of these in the middle of the road, although it was about 8:00 P.M. A few miles later, another was found in that same position, but it was not so quick to get away as the first, and we hit it in the wing. The only time these birds assemble in any number is at the grass fires.

**Tockus nasutus nasutus** (Linnaeus)

1 ♂, Yaossédougou, 26 Dec. 1964; 1 ♀, Wango-fitini, 1 Jan. 1965.

The bird from Yaossédougou was taken in park savanna, as was the one from Wango-fitini, where the latter was attending a grass fire. They were common mostly in the North, and came down to Bouaké only during the dry season, never in any numbers.

**\*Lybius dubius** (Gmelin)

1 ♀, Bouaké, 8 Sept. 1964; 1 ♀, Doropo, 31 Dec. 1964.

This bird is more common in the North than at Bouaké. At Bouaké it was shot in second growth containing many *Ficus* bushes.

At Doropo and thereabouts it seemed to stay in the small groups of trees with dense undergrowth.

**\*Campethera nivos**a subsp.

1 ♂, Korhogo, 22 March 1965.

This specimen was taken in heavy gallery forest a few kilometers southwest of Korhogo. I heard it making a loud rattle, but did not manage to see it until I was right under it, and was impressed with its lack of fear. It perched across the branch, not along it, as most woodpeckers do.

This specimen has a remarkably long wing for this species, 98 mm., and, if typical of the population inhabiting the interior of the Ivory Coast, undoubtedly represents a new race. The maximum measurement given by Bannerman (1933, 3, p. 431) for *C. n. nivos*a is 93 mm., based on 30 specimens, and the maximum for *efulensis* is only 91 mm., based on 19 specimens. Among our own material of 5 *nivos*a and 22 *efulensis*, none exceeds these measurements.

**Mesopicos goertae agmen** Bates

1 ♂, Bouaké, 28 Aug. 1964.

Collected in a tree on a savanna hillside.

**Mirafra rufocinnamomea buckleyi** (Shelley)

1 unsexed, Bouaké, 15 Sept. 1964.

This is one of the clapper larks with a characteristic flight pattern as described by Bannerman (1953, p. 808) and with a characteristic sound, i.e., "prrrrp-prrrrp prrrrrrp," the third being the longest. Many times it can be heard in the sky flying so high that it is out of sight. They also are one of the first birds to waken in the morning, and it is startling to have one drum nearby on a misty morning at dawn.

**Mirafra nigricans erythrogygia** Strickland

1 ♀, Fetekro, 17 Jan. 1965.

This bird was taken while perching high in a bare-branched tree in park savanna.

**Hirundo rustica rustica** Linnaeus

1 ♂, 3 ♀, 1 unsexed, Bouaké, 14 Sept.-10 April, 1964 and 1965.

Often seen in large companies in fall and spring.

The earliest sign of molt is in an immature male taken 28 September which has shed its first primaries. An immature female taken

12 November is growing its first two primaries, while a female taken 10 April is in fine, fresh plumage.

**\**Hirundo lucida lucida* Verreaux**

1 ♀, Ferké, 5 Aug. 1964.

This one was taken in savanna, in a town where it was sitting on a wire with several others. It has begun post-nuptial molt, with the third primary growing in.

**\**Hirundo leucosoma* Swainson**

1 ♂, Bouaké, 9 June 1965.

In June of 1964 I found a nest of this species placed about 15 ft. down in a well. Next month there was a new nest, about 20 ft. up, in a water tower right beside the well, and it might have been the same pair that built the two, for I never saw more than two birds at a time. The young birds excreted waste over the edge of the nest. At night one of the adult birds covered the young, even when they were quite well grown.

**\**Hirundo abyssinica puella* Temminck and Schlegel**

1 ♂, 1 ♀, Bouaké, 4 May 1965; 1 ♂, Korhogo, 11 June 1964.

These were commonly seen on wires over streams, in savanna. The specimen from Korhogo was carrying mud for its nest. Nests at Bouaké were in small colonies under culverts.

**\**Dicrurus ludwigii sharpei* Oustalet**

1 ♀, Bouaké, 16 May 1965.

Conspicuous and common only in a small stand of primary forest near Bouaké. Their song is much more musical and loud than that of *D. adsimilis*. They cannot stay in the forest canopy all the time, for one was caught in a mist net in thick undergrowth just a few feet from the ground.

***Dicrurus adsimilis divaricatus* (Lichtenstein)**

1 ♂, Bouaké, 30 Sept. 1964.

This species was definitely more common at Korhogo and Doropo than at Bouaké.

***Dicrurus adsimilis atactus* Oberholser**

1 ♀, Abidjan, 18 June 1965.

The race *atactus* with darker, less glossy, back is evidently confined to the coastal forests of the Ivory Coast, and its place in the interior savanna is taken by the widespread *divaricatus*.

**\*Corvus albus** Müller

1 ♂, Laoudi-Ba, 28 Dec. 1964.

Common and much associated with man.

**\*Turdoides plebeja platycircus** Swainson

1 im. ♂, Korhogo, 6 June 1964.

This babbler was not recorded at Bouaké, although it was common in little parties at both Korhogo and Doropo.

This specimen is in post-juvenal molt, and breeding must have begun before the rains.

**Andropadus virens erythropterus** Hartlaub

4 ♂, 2 ♀, Bouaké, 15 Jan.-18 April 1965; 2 ♂, Abidjan, 19 and 21 June 1965.

One of the most common birds of secondary forest, where it is much more frequently heard than seen. So well does it escape detection that I recognized its call for eight months before seeing one.

**\*Andropadus latirostris congener** Reichenow

1 ♂, Abidjan, 22 June 1965.

Taken in heavy undergrowth, secondary bush.

**\*Chlorocichla flavicollis flavicollis** (Swainson)

1 ♂, Sinématiali, 23 March 1965.

Taken in a large tree in gallery forest. It was with a small band of the same species.

**Phyllastrephus scandens scandens** Swainson

1 unsexed, Bouaké, 16 May 1965; 1 ♀, Korhogo, 13 June 1964.

Although Bannerman says that it is not found in dense undergrowth, it was seen there more often than not. At Gawi on the Comoé River, in the savanna of the Bouna Reserve, it was extremely common. Its call is a peculiarly liquid babbling. They move around the forest in small bands, sometimes following single file.

**Nicator chloris** (Valenciennes)

1 juv., 1 ♀, Abidjan, 21 June 1965.

**Saxicola rubetra** Linnaeus

2 ♂, 4 ♀, Bouaké, 2 Nov. 1964-31 Jan. 1965.

A common migrant which appears during the long dry season. It is often to be seen perched on telegraph wires, from which it sallies

forth after insects. Although it rarely sings, at times I have heard a soft but beautiful song from this bird. It also has a metallic note, like a buzz mixed with a chirp, which is heard more often.

Although the whinchat does not, as a rule, molt its flight feathers on its wintering grounds, one female, taken 12 January and marked "skull not ossified," has replaced the first primaries.

**\**Turdus olivaceus chiguancoides* Seebohm**

1 ♂, Doropo, 30 Dec. 1964; 1 ♂, 1 ♀, Bouaké, 22 May 1964 and 5 March 1965; 1 juv. ♀, Bouaké, 28 Sept. 1964; 1 ♀, Korhogo, 11 June 1964.

The Kurrichane thrush is not uncommon at Bouaké, where it seemed to favor gardens with plenty of vegetation. Its song is heard mostly in the early rains, at which times it perches rather conspicuously atop some tree. It has sweet notes, never repeated more than three times, which it sings incessantly with a great deal of variation in pattern.

The young bird from Bouaké has just begun post-juvenal molt.

**\**Acrocephalus arundinaceus arundinaceus* (Linnaeus)**

1 ♂, 1 ♀, Bouaké, 5 Feb. and 30 April 1965.

These specimens were taken in rank marsh reeds, where this warbler seemed to be almost the only species of bird.

***Cisticola erythrops erythrops* (Hartlaub)**

1 unsexed, Bouaké, 15 Feb. 1964; 1 ♂, 1 ♀, Abidjan, 21 and 23 June 1965.

***Cisticola lateralis* subsp.**

1 ♂, 1 ♀, Bouaké, 15 March 1964, 9 April 1965; 1 juv. unsexed, Bouaké, 21 Sept. 1964.

I agree with Rand (1951, p. 625) that the population of Cameroon can hardly be included in nominate *lateralis*. Rand had seven specimens from Cameroon that could be separated at a glance from nine topotypes of *lateralis* from Liberia, the latter being much darker and more sooty on the upper parts. We now have some 15 additional specimens from Cameroon, and they, too, can be told at a glance from the Liberian birds. Cameroon should be included in the range of the browner race *antinorii* of East Africa.

The two Bouaké adults are similar to Cameroon birds rather than to those of adjoining Liberia. However, until material from Ghana



and Nigeria is examined, and better series are forthcoming from the Ivory Coast, it would be rash to extend *antinorii* so far west.

\**Cisticola natalensis strangei* (Fraser)

2♂, 1 unsexed, Bouaké, 19 Sept. 1964–6 June 1965.

Due to mistrust of my field identifications, I hesitate to note any observations about these grass-warblers.

\**Prinia erythroptera erythroptera* (Jardine)

2♀, 1 unsexed, Bouaké, 27 Aug.–18 Dec. 1964.

This warbler is usually quite conspicuous, with a considerable variety of notes. Generally, two or three are found together, and they seemed at Bouaké to prefer a thick, grassy habitat with small bushes. However, I once collected one from the branches of a large tree some 40–50 ft. up.

This is a short, westerly extension of range for this species, which previously has been taken only west to Ghana. We agree with White (1962a, p. 688) that *Heliolais* should be submerged in *Prinia*.

\**Prinia subflava* subsp.

1 unsexed, Bouaké, 25 Aug. 1964; 1 juv. ♂, Bouaké, 18 Dec. 1964.

The unsexed adult, taken 25 August, is in breeding plumage with black bill and cannot be distinguished from the perennially-plumaged *melanorhyncha*. On the other hand, the juvenal male is molting into a first winter dress that is similar to the winter dress of nominate *subflava*. If this first winter dress is similar to that of the adult, then the population of Bouaké must be included in *subflava*, which shows marked differences between the darker, grayer breeding plumage and the paler, browner winter plumage.

\**Hypergerus atriceps* (Lesson)

2♂, Bouaké, 25 April 1964, 16 May 1965.

This bird seems to be among the more shy species. I found it usually in undergrowth of either primary or secondary forest, although it does not hesitate to fly in the open from place to place. It has a rather harsh note, and also a song which it gives from a tree and repeats over and over to the point of monotony, a whistled "wheee-oooo." It was usually in pairs, at least in the early rains.

*Camaroptera superciliaris willoughbyi* Bannerman

1♂, Bouaké, 19 March 1965.

Taken in thick secondary forest; an uncommon species.

Amadon (1953, p. 424) doubts the validity of *willoughbyi* and White (1962a, p. 712) recognizes no races. However, our specimen shows clearly the characters ascribed to *willoughbyi*. Compared to *flavicularis* it is brighter green above and more nearly white below. On the other hand, it would be difficult to separate it from some of the more brightly colored specimens of *pulchra* from northern Angola.

**\*Camaroptera chloronota kelsalli** Sclater

1 ♀, Abidjan, 21 June 1965.

Taken in dense undergrowth.

**Camaroptera brachyura tincta** (Cassin)

2 ♂, 1 unsexed, Bouaké, 14 Jan.-25 May 1965.

Probably the most common warbler, it usually stays in the undergrowth of forests. In May one was chasing another through the trees and bushes of some primary forest with great abandon and vocalization.

**\*Sylvietta denti hardyi** Bannerman

1 ♂, Abidjan, 20 June 1965.

Taken in thorny thicket.

**Hylia prasina prasina** (Cassin)

2 ♂, 1 ♀, Bouaké, 3 Feb.-22 May 1965.

White (1962a, p. 738) calls the populations from Portuguese Guinea to Ghana *superciliaris*, characterizing them as darker above and below than the nominate form. When the Ivory Coast birds are compared to a series of fresh topotypical *prasina* from Gabon, there are no evident differences, and the former must be placed in *prasina*.

**Diaphorophya blissetti** Sharpe

2 ♀, Abidjan, 24 June 1965.

These two were taken in dense second growth, near an area of cultivated land.

Serle (1957, p. 641) reports collecting *blissetti* and *chalybea* within a few miles of one another in the Kumba division of Cameroon, with no evidence of intergradation. We agree with him that they should be maintained as separate species.

**Terpsiphone viridis ferreti** (Guerin)

1 ♂, Bouaké, 12 Feb. 1965.

Found occasionally in the tall trees of gallery forest at Bouaké.

In a gallery forest at Sinématiali, near Korhogo in the north, it seemed quite common.

This male is in the white phase, with back and tail wholly white except for a few black shaft streaks. This is by far the most common plumage phase in the Ivory Coast, and is characteristic of *ferreti*, which ranges across the Sudanese savanna from the Ivory Coast and Mali to Abyssinia. The white phase of *speciosa* of Lower Guinea is similar, but the outer rectrices are almost invariably black. White (1963, p. 40) was the first to recognize that *ferreti* reached the Ivory Coast.

**\*Macronyx croceus croceus** (Vieillot)

2 ♀, Bouaké, 1 Sept. and 24 Dec. 1964.

This is a common bird and more conspicuous than most pipits because of its size and coloring. It is often flushed up from areas of short or no grass, and is usually seen in pairs, which are very devoted to each other. It has a characteristic flight, flapping and gliding with down-curved wings, and uttering its two-note call. It also has a rather pretty song. It perches often on small bushes, where its feet have difficulty gripping the perch, as evidenced by the constant jerking and seeming loss of balance.

**Tchagra senegala senegala** Neumann

1 ♂, Doropo, 30 Dec. 1964; 1 ♀, Boundiali, 20 June 1964.

The specimen from Boundiali was taken in rather open bush. This species is often heard singing, but is not at all conspicuous. During courtship it also has a variety of buzzes and clicks, uttered while flying up and down to impress the females.

The Ivory Coast birds cannot be separated from topotypical *senegala*. White (1962b, p. 22) is probably correct in considering *pallida* of Ghana to be a synonym of *senegala*.

**\*Laniarius ferrugineus major** (Hartlaub)

2 ♂, Bouaké, 8 Sept. 1964 and 12 March 1965.

A well-known songster, this bird is found in secondary forest, the thicker the better, where its secretive movements recalled the coucal.

**\*Corvinella corvina togoensis** Hartlaub

1 ♀, Doropo, 31 Dec. 1964.

Always gregarious and local at Bouaké and at Korhogo and Doropo. We follow White (1962b, p. 39) in using *togoensis* for Ivory Coast birds.

**\*Lamprotornis chalcurus chalcurus** Nordmann

1 unsexed, Varalé, 28 Dec. 1964.

Taken from a flock of some two score in kapok trees in open country. Varalé is just a little south of Doropo.

This specimen is aberrant in color, lacking the rich violet color on the tail that is characteristic of typical *chalcurus*, and actually appearing more like the closely similar *chalybeus* which has a green tail. However, in other characters, particularly its short tail, it is typical *chalcurus*. Tail lengths of the two species are:

	♂ ♂	♀ ♀
<i>chalcurus</i>	71 - 80	70 - 75
<i>chalybeus</i>	85 - 92	80 - 85

The unsexed Varalé bird has a tail length of 74, within the limits of *chalcurus*, but smaller than even the smallest female *chalybeus*. In both species the ear coverts are dark blue, but those of *chalcurus* are darker and more sharply defined from the green head than those of *chalybeus*. In this character, also, the Varalé bird is *chalcurus*.

**\*Nectarinia venusta venusta** (Shaw and Nodder)

1 ♂, Bouaké, 10 Nov. 1964.

This specimen is most peculiar. The iridescent green upperparts, when viewed directly from above, have a pinkish coppery wash that I am unable to find in any other specimen. Presumably, this is a mutant structural defect, for the pigmented areas of the bird are typical of nominate *venusta*.

**Nectarinia chloropygia kempfi** (O.-Grant)

1 ♂, Bouaké, 22 April 1965; 1 ♂, Abidjan, 19 June 1965.

Usually seen in second growth vegetation, where it is attracted by flowers of various kinds. Exceedingly common at Abidjan—in fact, it was the only sunbird I recognized there.

Our few specimens of *chloropygia* from West Africa do not correspond with the arrangement of subspecies of either Bannerman (1948, p. 186) or of Serle (1956, p. 104) and White (1963, p. 75). Bannerman recognizes four races: from Sierra Leone to the Ivory Coast, birds are pale olive below (*kempfi*); from Ghana through southern Nigeria they are darker (*chloropygia*); from southern Cameroon and eastward they are darker still (*luhderi*); while on Fernando Po and Cameroon Mt. they are similar in color to *chloropygia* but larger (*insularis*). Serle and White recognize only two races: dark birds from east of the Niger River through Cameroon (*chloropygia*, with *luhderi* and

*insularis* as synonyms); and pale birds from west of the Niger to Sierra Leone (*kempi*).

Our material consists of a long series of the dark-bellied "*luhderi*" from southern Cameroon, single specimens from Mt. Cameroon, Ifon in southwestern Nigeria, and Liberia, and the two males from the Ivory Coast. Contrary to the above authors, the Mt. Cameroon and Ifon birds are much paler below than even the *kempi* from the Ivory Coast and Liberia. The Mt. Cameroon specimen in particular could not possibly be associated with the dark southern Cameroon birds where Serle and White would place it. Serle has pointed out that wear causes considerable variation in color in the underparts, but the darkness of our Ivory Coast and Liberian *kempi* compared to Nigerian birds cannot be correlated with wear since all specimens are in immaculate fresh plumage and the Bouaké bird is just completing molt. While we cannot possibly revise the races of *chloropygia* on the meager material available, neither of the arrangements above seems satisfactory.

***Nectarinia coccinigaster* (Latham)**

3 ♂, 3 ♀, Bouaké, 15 Feb. 1964–10 Feb. 1965.

Probably the commonest savanna sunbird in the Bouaké area.

***Nectarinia superbus ashantiensis* (Bannerman)**

1 im. ♂, Bouaké, 21 May 1964.

**\**Zosterops senegalensis senegalensis* (Linnaeus)**

2 ♂, Bouaké, 15 Feb. 1964 and 18 March 1965.

The white-eye is a rather tame little bird, often seen in gardens, usually in small parties, which search the branches for insect food. They keep in touch with each other with little twittering cries.

These Bouaké birds are typical of the paler, more yellowish nominate race of the savannas of West Africa. If the darker, more olive, *demeryi* is found in the Ivory Coast, it must be closely confined to the forest areas.

***Ploceus nigerrimus castaneofuscus* Lesson**

2 ♂, Bouaké, 20 Oct. 1964.

These weavers nest in heavy elephant grass during the latter part of the rains. On October 20, when the two specimens were collected, there was a good-sized colony of some 40 nests at the base of a small granite outcrop. The males displayed by hanging beneath the nest with fluttering wings, and giving forth a waterfall of wheezes and

whistles. I found spaces, below the nests which I inspected, that were clear of any grass stems except the ones supporting the nest. The ground also was clear of debris, and there were often small piles of white-flower petals. The grass could have been used to construct the nests, although most of the males seem to fly away to other places to get the material. The eggs had not been laid in the nests I checked.

Earlier this same group of weavers had built nests in a different area a hundred yards away, but had never laid in them.

***Ploceus superciliosus* (Shelley)**

2♂, 1♀, 1 unsexed, Bouaké, 22 March 1964–6 June 1965.

This weaver is rather common around Bouaké, although I did not find it anywhere else. It lives in small groups of six to ten individuals, generally in thick elephant grass.

***Malimbus nitens* (Gray)**

1♂, Bouaké, 3 June 1964; 1♀, Groumania, 27 Dec. 1964.

At Bouaké, this species was found only in a stand of primary forest ten miles to the east. The first specimen was taken from a group, and empty nests were found suspended over the pools of water, presumably of this species. The second specimen from Groumania was a solitary bird in partially cultivated land bordering primary growth.

**\**Quelea erythrops* (Hartlaub)**

4♂, 1♀, 1 unsexed, Bouaké, 16 Dec. 1964–14 March 1965.

Often found in mixed flocks with other weavers in the off season, but not very numerous at Bouaké.

**\**Vidua nigeriae* (Alexander)**

1♂, Bouaké, 28 Aug. 1964.

This bird was shot while with some females and apparently other males in a manioc field that was under preparation. It was uncommon at Bouaké, although other little Indigo finches (I could not be sure of which species) were commonly seen around villages in the north.

**\**Pyrenestes sanguineus sanguineus* Swainson**

3♀, 1 juv. ♀, Bouaké, 17 April–2 June 1965.

Several of these were taken in gallery forest directly bordered by a reedy swamp, which opened into a thick marsh a few yards downstream.

The finding of *P. s. sanguineus* in the Ivory Coast was the most interesting discovery made by Parelius. Prior to this it had been known only from Senegambia and Portuguese Guinea where it is extremely rare. The only other record since 1909, when Ansorge took his specimen at Gunnal, are two sight records by Cawkell (1960, p. 137) on the Gambia River. Nominate *sanguineus* is distinguished from *coccineus*, the race of Sierra Leone and Liberia, by its broader bill and longer wing. Measurements of the two races, from Chapin (1924), are given below, compared to those of our three adult females from Bouaké.

		wing length	bill width
<i>sanguineus</i>	8 ♂	69-74.5 (72)	17.5-20 (18.2)
	1 ♀	70.5	18
<i>coccineus</i>	17 ♂	60-63 (61.7)	11.9-14.4 (12.8)
	15 ♀	57-63 (60.9)	12-15 (12.6)
Ivory Coast	3 ♀	67, 70, 72	13.8, 18.4, 19.1

It will be noted that one bird, with bill width 13.8, is in the size range of *coccineus*, but in wing length it is nearer to *sanguineus*. This is the first time that such variability in bill width has been noted within any one population of the species *sanguineus*, but it is found commonly in the related species *ostrinus*. Chapin (1954, p. 490) has shown that in *ostrinus* the race with the largest bill, *maxima* (= *frommi*), is characteristic of gallery forest in the savanna, that the medium-billed race *ostrinus* is found around the edge of the tropical forest, and that the smallest race *rothschildi* is found in clearings of the forest. He suggests that the present occurrence of large- and small-billed birds together is due to the rapid change in habitat occasioned by the agricultural activities of man. He also suggests that the broad-billed *sanguineus* is the savanna representative of the small-billed, forest *coccineus*. This is borne out by our material, for Bouaké is in an area of savanna with gallery forest; this population may prove to be continuous with those of Gambia and Portuguese Guinea when the drier interior of Guinea is better known.

The relationship of *sanguineus* and *ostrinus* is obviously close, and White (1963, p. 180) unites them in a single species. The clue to this relationship will be found in the Ivory Coast, but at present the evidence is equivocal. Berlioz (1954, p. 661) reported a female of *P. o. ostrinus* from Bingerville, near Abidjan, with a mandibular width of 15 mm. Unfortunately, there is no way to distinguish between the females of *P. o. ostrinus* and *P. s. coccineus*, so this record is open to

question. However, the following year Brunel (1955, p. 16) reported that Africans had brought him nests and adult males and females of both *ostrinus* and *coccineus*. Unfortunately, only the single female reported by Berlioz was preserved, but the male of *ostrinus* with its black upperparts is unmistakable, and this species certainly reaches the Ivory Coast. However, the male of *coccineus* could easily be confused with females of either species, since all have brown backs, and the presence of both species at Bingerville is still not certain. The same question might be raised about the Bouaké females, whether they might not be *P. o. frommi*, the large-billed race of *ostrinus*, which has been found as far west as Togo. There is no way to separate the females of the two, but both Parelius and Brunel have observed or handled several other specimens at Bouaké besides those preserved, and as none of them showed the black back of *ostrinus*, it may be assumed that they were all *sanguineus*. The solution to the problem, whether or not *ostrinus* and *coccineus* meet and behave as good species, must await more extensive observations and collections in the Ivory Coast.

**\*Estrilda bengala bengala** (Linnaeus)

1 ♀, Korhogo, 15 June 1964

Extremely common at Korhogo, where it was apparently breeding in June. The male would sit on a branch with a small piece of grass in his beak, singing prettily for the female, who, however, showed little or no interest.

**\*Estrilda senegala senegala** (Linnaeus)

2 ♂, Bouaké, 5 Dec. 1964 and 28 Jan. 1965.

This common little finch is usually seen in the vicinity of human habitations. They often gather in spots where water is thrown out, or where grain is threshed. They seemed to be somewhat more common in the north than at Bouaké.

**\*Estrilda rubricata polionota** (Shelley)

1 ♂, 1 unsexed, Bouaké, 11 Jan. and 5 March 1965.

The areas where grass is invading secondary growth is a favorite place of this bird. It is quite shy, and usually found in pairs. They never seem to fly higher than necessary to skim over the ground or the grass and settle down farther away, giving a few characteristic notes in flight. Like other finches, they do most of their feeding on the ground.



**\*Ortygospiza atricollis ansorgei** O.—Grant

1 ♂, 1 ♀, 3 unsexed, Bouaké, 14 Nov. 1964–2 May 1965.

This is a common little bird with a characteristic but hard-to-describe call which it utters when flushed, as it flies jerkily to land a few yards away. It is often seen along the side of dirt roads in pairs or threesomes, and also in small groups of four to six individuals in cultivated land bordering a stream. It is usually found where the soil is of a grayish color, with considerable clay content.

In a recent revision (Traylor, 1963, p. 141) of *O. atricollis*, I stated that one character by which males of *atricollis* could always be distinguished from males of the related *gabonensis* was the blackish or horn-colored upper mandible. In male *gabonensis* the upper mandible is always red. Contrary statements about *atricollis* I considered as probably due to confusion with *gabonensis*. However, in their new monograph of the waxbills, Immelmann *et al.* (1963–1965, pp. xiii and 369) state that the upper mandible of *atricollis* becomes red during the breeding season. Our fresh material from the Ivory Coast, plus information from several observers in Africa, show that Immelmann *et al.* are correct, and that at least in the majority of races the male of *atricollis* does have a red upper mandible during the breeding season.

The two adult males of *O. a. ansorgei* from Bouaké have the upper mandible bright red, similar in color to the lower mandible. Mr. P. A. Clancey writes me that in the race *muelleri* of Natal, the whole bill is also red during the breeding season. Mr. M. P. Stuart Irwin says (*in litt.*) that the same is true in *muelleri* of Zambia and Rhodesia, and in *pallida* of Bechuanaland. Unfortunately, he had no breeding material of *muelleri* or *smithersi* taken in the areas of sympatry with *gabonensis* in Zambia. However, his description of *smithersi* taken in October, about two months before breeding, suggests that even this race may assume a red bill, "5 ♂♂: coll. 9, 10, 11th October have the maxilla much less dark [than August birds], though they are a bit variable, but obviously at this juncture it would seem to have been taking on a reddish suffusion." The case of *O. a. ugandae*, which is sympatric with *O. g. dorsostrciata*, produces the only positive contrary evidence. Chapin (1954, p. 499) collected a series of *ugandae* at Kasenyi on the shores of Lake Albert in September, at which time they were breeding and one female was about ready to lay. He gives the bill color of male *ugandae* as "very dark crimson, washed with blackish on mandible," while bill color of the sympatric *dorsostrciata*, taken at Bogoro in the same month, was "rather dull scarlet."

If, as one would normally expect, different bill colors would serve as species recognition marks between the otherwise closely similar *atricollis* and *gabonensis*, it would be unexpected to find that the bills become alike during the breeding season when this recognition mark would be most useful. It does appear that this may be the case with *smithersi*, although the evidence is not conclusive, but is apparently not the case with *ugandae*. Outside of the areas of sympatry, however, it is apparent that *atricollis* races do acquire a wholly red bill during the breeding season, contrary to my previous statement.

***Lonchura cucullatus cucullatus* (Swainson)**

2♂, Bouaké, 31 May 1964 and 5 March 1965.

One of the commonest of the estrildines at Bouaké, where it was always to be seen in the bougainvillae on our porches. It was difficult to tell when it was breeding, because of the communal nests they build to roost in. However, I did discover one nest in May, that contained several eggs. It was built in a small leafless tree, about 5 ft. up, and there was a wasp nest beside it, to my misfortune.

***Serinus mozambicus caniceps* (d'Orbigny)**

2♂, 2♀, 1 unsexed, Bouaké, 23 April 1964–3 June 1965.

A common little bird of park woodland and, more often, clearings of man. I have twice seen flocks of this species hawking for insects from small trees.

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